

EXHIBIT 4

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:)	Atty. Docket No.:
ROCHETTE ET AL.)	78803 (120-2 US)
)	
Serial No. 10/946,536)	Art Unit: 4113
)	
Filing Date: SEPTEMBER 21, 2004)	Examiner:
)	SYED A. RONI
Confirmation No. 7612)	
)	
For: COMPUTING SYSTEM HAVING USER)	
MODE CRITICAL SYSTEM ELEMENTS)	
AS SHARED LIBRARIES)	
)	

RESPONSE

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Responsive to the Official Action of September 22,
2009, please consider the remarks set out below.

In re Patent Application of:

ROCHETTE ET AL.

Serial No. **10/946,536**

Filed: **09/21/2004**

In the Claims:

1. (Previously Presented) A computing system for executing a plurality of software applications comprising:

a) an operating system having an operating system kernel having OS critical system elements (OSCSEs) for running in kernel mode; and,

b) a shared library having critical system elements (SLCSEs) stored therein for use by the plurality of software applications in user mode and

i) wherein some of the SLCSEs stored in the shared library are functional replicas of OSCSEs and are accessible to some of the plurality of software applications and when one of the SLCSEs is accessed by one or more of the plurality of software applications it forms a part of the one or more of the plurality of software applications, and

ii) wherein an instance of an SLCSE provided to one or more of the plurality of software applications from the shared library is run in a context of said one or more of the plurality of software applications without being shared with other of the plurality of software applications and where one or more other of the plurality of software applications running under the operating system have use of a unique instance of a corresponding critical system element for performing essentially the same function.

2. (Original) A computing system as defined in claim 1, wherein in operation, multiple instances of an SLCSE stored

In re Patent Application of:

ROCHETTE ET AL.

Serial No. **10/946,536**

Filed: **09/21/2004**

in the shared library run simultaneously within the operating system.

3. (Original) A computing system according to claim 1 wherein OSCSEs corresponding to and capable of performing essentially the same function as SLCSEs remain in the operating system kernel.

4. (Previously Presented) A computing system according to claim 1 wherein the one or more SLCSEs provided to one of the plurality of software applications having exclusive use thereof, use system calls to access services in the operating system kernel.

5. (Currently Amended) A computing system according to claim 1 wherein the operating system kernel comprises a kernel module adapted to serve as an interface between ~~a~~ an SLCSE in the context of an application program and a device driver.

6. (Previously Presented) A computing system as defined in claim 1, wherein an SLCSE related to a predetermined function is provided to a first of the plurality of software applications for running first instance of the SLCSE, and wherein an SLCSE for performing essentially a same function is provided to a second of the plurality of software applications for running a second instance of the SLCSE simultaneously.

In re Patent Application of:

ROCHETTE ET AL.

Serial No. **10/946,536**

Filed: **09/21/2004**

7. (Original) A computing system according to claim 5 wherein the kernel module is adapted to provide a notification of an event to an SLCSE running in the context of an application program, wherein the event is an asynchronous event and requires information to be passed to the SLCSE from outside the application.

8. (Previously Presented) A computing system according to claim 7 wherein a handler is provided for notifying the SLCSE in the context of one of the plurality of software applications through the use of an up call mechanism.

9. (Original) A computing system according to claim 7 wherein the up call mechanism in operation, executes instructions from an SLCSE resident in user mode space, in kernel mode.

10. (Previously Presented) A computing system according to claim 2, wherein a function overlay is used to provide one of the plurality of software applications access to operating system services.

11. (Previously Presented) A computing system according to claim 2 wherein SLCSEs stored in the shared library are linked to particular software applications of the plurality of software applications as the particular software applications are loaded such that the particular software applications have a link that provides unique access to a unique instance of a CSE.

In re Patent Application of:

ROCHETTE ET AL.

Serial No. **10/946,536**

Filed: **09/21/2004**

12. (Original) A computing system according to claim 2 wherein the SLCSEs utilize kernel services supplied by the operating system kernel for device access, interrupt delivery, and virtual memory mapping.

13. (Original) A computing system according to claim 1, wherein SLCSEs include services related to at least one of, network protocol processes, and the management of files.

14. (Previously Presented) A computing system according to claim 11 wherein some SLCSEs are modified for a particular one of the plurality of software applications.

15. (Original) A computing system according to claim 14 wherein the SLCSEs that are application specific, reside in user mode, while critical system elements, which are platform specific, reside in the operating system kernel.

16. (Original) A computing system according to claim 5 wherein the kernel module is adapted to enable data exchange between the SLCSEs in user mode and a device driver in kernel mode, and wherein the data exchange uses mapping of virtual memory such that data is transferred both from the SLCSEs in user mode to the device driver in kernel mode and from the device driver in kernel mode to the SLCSEs in user mode.

17. (Previously Presented) A computing system according to claim 1 wherein SLCSEs form a part of at least some

In re Patent Application of:

ROCHETTE ET AL.

Serial No. **10/946,536**

Filed: **09/21/2004**

of the plurality of software applications, by being linked thereto.

18. (Original) A computing system according to claim 2 wherein the SLCSEs utilize kernel services supplied by the operating system kernel for device access, interrupt delivery, and virtual memory mapping and otherwise execute without interaction from the operating system kernel.

19. (Original) A computer system as defined in claim 2 wherein SLCSEs are not copies of OSLCEs.

20. (Original) An operating system comprising the computing system of claim 2.

In re Patent Application of:

ROCHETTE ET AL.

Serial No. **10/946,536**

Filed: **09/21/2004**

REMARKS

The Examiner is thanked for the thorough examination of the present application. The Examiner is also thanked for properly withdrawing his prior rejection. Dependent Claim 5 has been amended to correct a minor informality. The patentability of the claims is discussed below.

I. The Claimed Invention

The present invention, as recited in independent Claim 1, for example, is directed to a computing system for executing a plurality of software applications. The computing system includes an operating system having an operating system kernel having OS critical system elements (OSCSEs) for running in kernel mode. The computing system also includes a shared library having critical system elements (SLCSEs) stored therein for use by the plurality of software applications in user mode. Some of the SLCSEs stored in the shared library are functional replicas of OSCSEs and are accessible to some of the plurality of software applications. When one of the SLCSEs is accessed by one or more of the plurality of software applications, it forms a part of the one or more of the plurality of software applications. An instance of an SLCSE provided to one or more of the plurality of software applications from the shared library is run in a context of the one or more of the plurality of software applications without being shared with other of the plurality of software applications. One or more other of the plurality of software applications running under the operating system have use of a unique instance of a corresponding critical system element for performing essentially the same function.

In re Patent Application of:

ROCHETTE ET AL.

Serial No. **10/946,536**

Filed: **09/21/2004**

II. The Claims Are Patentable

The Examiner rejected independent Claim 1 over a combination of O'Rourke et al. and Peek. O'Rourke et al. is directed to a system that proxies software components in a kernel mode via software components in a user mode. The Examiner correctly recognized that O'Rourke et al. fails to disclose a shared library having critical system elements (SLCSEs) stored therein for use by the plurality of software applications in user mode and wherein an instance of an SLCSE provided to one or more of the plurality of software applications from the shared library is run in a context of the one or more of the plurality of software applications without being shared with other of the plurality of software applications and where one or more other of the plurality of software applications running under the operating system have use of a unique instance of a corresponding critical system element for performing essentially the same function.

The Examiner turned to Peek for these critical deficiencies. Peek is directed to libraries for use in a multithreaded computer environment that must be thread-safe and that cannot be recoded. Peek discloses identifying the libraries and repackaging them so that library functions are accessible by multiple threads without extensive library modifications.

Applicants submit the Examiner mischaracterized O'Rourke et al. as it fails to disclose some of the SLCSEs stored in the shared library being functional replicas of OSCSEs. The Examiner contended that O'Rourke et al., Col. 3,

In re Patent Application of:

ROCHETTE ET AL.

Serial No. **10/946,536**

Filed: **09/21/2004**

line 61, Col. 6, line 13, and Col. 10, line 26, disclose some of the SLCSEs stored in the shared library are functional replicas of OSCSEs. Nowhere in Col. 3, line 61, Col. 6, line 13, and Col. 10, line 26, does it disclose some of the SLCSEs stored in the shared library being functional replicas of OSCSEs. Instead, Col. 3, line 61, Col. 6, line 13, and Col. 10, line 26, disclose a user mode proxy of kernel mode operations or kernel mode filters or drivers. More particularly, a software layer is formed on top of a kernel mode graph and allows a controller agent to manipulate a particular kernel mode filter by manipulating a user mode proxy of that particular kernel mode filter. (See O'Rourke et al., Col. 4, lines 5-9).

In other words, O'Rourke et al. discloses providing a generic proxy object that may be used for virtually all kernel mode filters either unchanged or through various extension mechanisms, or more simply providing a user mode proxy filter for a kernel mode filter. (See O'Rourke et al., Col. 6, lines 12-19, and Col. 10, lines 12-33). Indeed, the user mode proxy filter is not a functional replica, but merely acts as an intermediary to the kernel mode filters. Accordingly, independent Claim 1 is patentable for at least this reason.

Applicants further submit that the Examiner further mischaracterized O'Rourke et al. in that it fails to disclose that when one of the SLCSEs is accessed by one or more of the plurality of software applications, it forms a part of the one or more of the plurality of software applications. The Examiner contended that the O'Rourke et al. controlling agent **44** discloses that when one of the SLCSEs is accessed by one or more of the plurality of software applications, it forms a part of

In re Patent Application of:

ROCHETTE ET AL.

Serial No. **10/946,536**

Filed: **09/21/2004**

the one or more of the plurality of software applications. The O'Rourke et al. controlling agent **44** queries "the drivers in order to identify data formats and connection formats in order to interconnect kernel mode filters to create a filter graph." "Controlling agent **44** will also receive notification of important events so that it may exercise control as necessary. Examples of such events would include end of processing, a data starvation situation, a data overrun situation, and so forth." (See O'Rourke et al., Col. 9, lines 28-38; See also O'Rourke et al., Col. 10, lines 33-40, for example). Indeed, the controlling agent **44** fails to disclose that when one of the SLCSEs is accessed by one or more of the plurality of software applications, it forms a part of the one or more of the plurality of software applications. In other words, the SLCSEs literally form part of the application. SLCSEs reside in the same address space as application code, in contrast to a proxy that is exclusive of the application.

Applicants further submit that the Examiner's proposed combination of references is improper in that a person having ordinary skill in the art would not turn to the repackaging of shared libraries of Peek in an attempt to combine with the proxying of software components in a kernel mode via a software component in a user mode. More particularly, O'Rourke discloses that adding proxy filters for kernel mode filters provides several key benefits, for example, "the controlling agent **44** may manipulate and communicate with a particular kernel mode filter simply by manipulating or communicating with its proxy. Thus, user mode proxies of kernel mode filters allow a robust, familiar interface to be presented to a particular controlling

In re Patent Application of:

ROCHETTE ET AL.

Serial No. **10/946,536**

Filed: **09/21/2004**

agent while, simultaneously, allowing the controlling agent to take advantage of all the benefits of a kernel mode streaming architecture." (See O'Rourke et al., Col. 10, lines 33-41). In stark contrast, Peek is concerned with maintaining the integrity of a shared library that is accessible to multiple threads. Indeed, a person having ordinary skill in the art would not turn to the shared library teachings of Peek to combine with the kernel communication teachings of O'Rourke et al.

Additionally, storing some of the SLCSEs in the shared library as functional replicas of OSCSEs, as recited independent Claim 1, for example, is particularly advantageous in multiple operating system environments. This is in contrast to the teaching of both O'Rourke et al. and Peek. Still further, the present invention, as recited in independent Claim 1, for example, advantageously provides the ability to create unique environments for an application to execute within or by the SLCSEs, which is also in contrast to both O'Rourke et al. and Peek.

Still further, the Examiner contends that a person having ordinary skill in the art would modify the user mode drivers of O'Rourke et al. to be stored in a shared data structure such as a shared library as in Peek to improve the sharing of resources among different applications and use those kernel filters as the library functions in a user mode. Applicants submit that Peek fails to teach using a shared library to improve resource sharing, but rather teaches reducing resources required for preventing data corruption using a shared library. (See Peek, Col. 5, line 25 - Col. 6, line 5). Moreover, Applicants submit that it is not even possible to

In re Patent Application of:

ROCHETTE ET AL.

Serial No. **10/946,536**

Filed: **09/21/2004**

place user mode drivers in the libraries, as suggested. Indeed, O'Rourke et al. fails to disclose a shared library, and thus, Applicants submit that any motivation to combine Peek with O'Rourke et al. comes from Applicants' own Specification, paragraphs 4-7, for example. Accordingly, the Examiner's combination of references is improper, and independent Claim 1 is patentable also for this reason.

It is submitted that independent Claim 1 is patentable over the prior art. Its respective dependent claims, which recite yet further distinguishing features, are also patentable over the prior art for at least the reasons set forth above. Notwithstanding the reasons set forth above, further arguments in support of the patentability of the dependent claims are provided below.

III. The Dependent Claims Are Patentable

A. Dependent Claim 2 Is Patentable

Dependent Claim 2 recites the multiple instances of an SLCSE stored in the shared library run simultaneously within the operating system. Indeed, simultaneously running multiple instances of an SLCSE within the operating system is possible if replicas of OS critical system elements are provided. Neither O'Rourke and Peek disclose this. Allowing simultaneous operation advantageously allows multiple software applications to run at the same time or in parallel without deleterious results that would otherwise occur such as a first instance affecting a second instance or conflicts of that nature. Accordingly, dependent Claim 2 is patentable for these reasons also.

In re Patent Application of:

ROCHETTE ET AL.

Serial No. **10/946,536**

Filed: **09/21/2004**

B. Dependent Claim 3 Is Patentable

Dependent Claim 3 recites the OSCSEs corresponding to and being capable of performing essentially the same function as SLCSEs remain in the operating system kernel. This advantageously provides multiple OS environments within a single OS. This is in contrast to a virtual machine (VM), for example, VmWare, where a VM enables multiple OSs to exist on the same hardware. However, they do it at a cost of duplicating the entire OS, including the kernel. OSCSEs advantageously allow for multiple OS environments to coexist using the same kernel, which increases efficiency.

The Examiner contended that O'Rourke et al. discloses the OSCSEs corresponding to and being capable of performing essentially the same function as SLCSEs remain in the operating system kernel and turned to Col. 10, lines 19-26, to support his contention. Applicants submit that the Examiner mischaracterized O'Rourke et al. as it fails to disclose the OSCSEs corresponding to and being capable of performing essentially the same function as SLCSEs remain in the operating system kernel. Instead, O'Rourke et al. discloses providing a user mode proxy filter for a kernel mode filter. (See O'Rourke et al., Col. 6, lines 12-19, and Col. 10, lines 12-33). Accordingly, dependent Claim 3 is patentable for these reasons also.

C. Dependent Claim 4 Is Patentable

Dependent Claim 4 recites one or more SLCSEs provided to one of the plurality of software applications having

In re Patent Application of:

ROCHETTE ET AL.

Serial No. **10/946,536**

Filed: **09/21/2004**

exclusive use thereof, use system calls to access services in the operating system kernel. The Examiner contended that O'Rourke et al., Col. 11, lines 39-41, disclose the recited exclusive use. Applicants submit that O'Rourke et al., Col. 11, lines 39-41, fails to disclose the recited exclusive use and instead discloses that the filters needed to process audio data for multimedia may also be applicable to teleconferencing.

Indeed, each SLCSE represents a distinct OS environment. Multiple SLCSEs create multiple OS environments. Because each SLCSE uses system calls, they are able to use the same kernel. This advantageously allows multiple OS environments where, for example, multiple web servers may exist each having their own configuration (IP address, etc.), and multiple OS environments are created using a common kernel. Accordingly, dependent Claim 4 is patentable for these reasons also.

D. Dependent Claim 5 Is Patentable

Dependent Claim 5 recites the operating system kernel includes a kernel module adapted to serve as an interface between an SLCSE in the context of an application program and a device driver. A kernel module advantageously enables conversions that may be necessary. For example, SLCSE 1 originally used kernel version 1.1 and is placed on a kernel with version 2.2. In this scenario there are conversions to allow the system calls intended for kernel v1.1 to work effectively with kernel v 2.2. Applicants submit that O'Rourke et al. fails to disclose a kernel module adapted to serve as an interface between an SLCSE in the context of an application

In re Patent Application of:

ROCHETTE ET AL.

Serial No. **10/946,536**

Filed: **09/21/2004**

program and a device driver. Instead, O'Rourke et al. discloses kernel mode/user mode transition. Accordingly, dependent Claim 5 is patentable for these reasons also.

E. Dependent Claim 6 Is Patentable

Dependent Claim 6 recites an SLCSE related to a predetermined function is provided to a first of the plurality of software applications for running a first instance of the SLCSE, and an SLCSE for performing essentially a same function is provided to a second of the plurality of software applications for running a second instance of the SLCSE simultaneously. The Examiner contended that O'Rourke et al. Col. 11, lines 37-41, discloses the above-noted recitation. Applicants submit that O'Rourke et al., Col. 11, lines 37-41, fails to disclose the recited exclusive use and instead disclose that individual kernel mode filters will have wide applicability and utility in a variety of applications. For example, many filters needed to process audio data for multimedia may also be applicable to teleconferencing.

Indeed, multiple SLCSEs equate to multiple applications. Applications that may not execute effectively as multiple instances on the same OS can do so within multiple SLCSEs. Accordingly, dependent Claim 6 is patentable for these reasons also.

F. Dependent Claim 7 Is Patentable

Dependent Claim 7 recites the kernel module is adapted to provide a notification of an event to an SLCSE running in the context of an application program, and the event is an

In re Patent Application of:

ROCHETTE ET AL.

Serial No. **10/946,536**

Filed: **09/21/2004**

asynchronous event and requires information to be passed to the SLCSE from outside the application. This is part of the mechanism that enables an SLCSE, and any application that executes using the SLCSE, to execute on a kernel that it was not originally intended to execute with. The ability to send an event to an SLCSE provides increased efficiency and flexibility, and thus it allows an application to execute that would otherwise not be able to execute.

The Examiner contended that O'Rourke et al., Col. 9, lines 36-38, disclose the event being an asynchronous event and requiring information to be passed to the SLCSE from outside the application. Applicants submit that the Examiner mischaracterized O'Rourke et al. Instead, O'Rourke et al., Col. 9, lines 36-38, disclose a controlling agent that receives notification of important events so that it may exercise control as necessary, and examples of such events include end of processing, a data starvation situation, and a data overrun situation. Accordingly, dependent Claim 7 is patentable for these reasons also.

G. Dependent Claim 8 Is Patentable

Dependent Claim 8 recites a handler is provided for notifying the SLCSE in the context of one of the plurality of software applications through the use of an up call mechanism. In other words, a mechanism for creating an async event is defined. The Examiner cited to O'Rourke et al., Col. 3, line 61, Col. 6, line 13, and Col. 10, line 26, as disclosing the above-noted recitation. The Examiner's cited portions of O'Rourke et al. merely disclose a user mode proxy for kernel

In re Patent Application of:

ROCHETTE ET AL.

Serial No. **10/946,536**

Filed: **09/21/2004**

mode filter. Accordingly, dependent Claim 8 is patentable for this reason also.

H. Dependent Claim 9 Is Patentable

Dependent Claim 9 recites the up call mechanism in operation, executes instructions from an SLCSE resident in user mode space, in kernel mode. This advantageously increases efficiency. Each transition from user mode to kernel is expensive with regard to processing requirements, as a context switch is performed. The claimed mechanism reduces the frequency of that transition.

The Examiner cited to O'Rourke et al., Col. 3, line 61, Col. 6, line 13, and Col. 10, line 26, as disclosing the above-noted recitation. The Examiner's cited portions of O'Rourke et al. merely disclose a user mode proxy for kernel mode filter. Accordingly, dependent Claim 9 is patentable for this reason also.

I. Dependent Claim 12 Is Patentable

Dependent Claim 12 recites the SLCSEs utilize kernel services supplied by the operating system kernel for device access, interrupt delivery, and virtual memory mapping. In other words, multiple OS environments execute on a single kernel. In contrast to a VM, this provides a similar benefit, but increases efficiency and reduces complexity.

The Examiner contended that O'Rourke et al., Col. 11, lines 2, 8, and 12, Col. 9, lines 36-38, along with speaker 62, disk driver 48, disclose the SLCSEs utilize kernel services supplied by the operating system kernel for device access,

In re Patent Application of:

ROCHETTE ET AL.

Serial No. **10/946,536**

Filed: **09/21/2004**

interrupt delivery, and virtual memory mapping. Applicants submit that the Examiner mischaracterized O'Rourke et al. in that Col. 11, lines 2, 8, and 12, disclose controlling agent 44 connecting proxy filters. O'Rourke et al., Col. 9, lines 36-38, discloses examples of notification events include end of processing, a data starvation situation, and a data overrun situation. Speaker 62 and disk driver 48 add nothing to the critical deficiencies of O'Rourke et al. Accordingly, dependent Claim 12 is patentable for these reasons also.

J. Dependent Claim 13 Is Patentable

Dependent Claim 13 recites SLCSEs include services related to at least one of network protocol processes, and the management of files. In other words, SLCSEs include services related to multiple concurrent network stacks or, multiple file systems.

The Examiner contended that O'Rourke et al., Figure 3 and Col. 2, lines 22-23, disclose the SLCSEs include services related to at least one of network protocol processes, and the management of files. Applicants submit that the Examiner mischaracterized the O'Rourke et al. cited portion as it fails to disclose network protocol processes. Instead, Col. 2, lines 22-23, of O'Rourke et al. disclose processing multimedia by processing a stream of data using a sequence of processing functions. Accordingly, dependent Claim 13 is patentable for this reason also.

In re Patent Application of:

ROCHETTE ET AL.

Serial No. **10/946,536**

Filed: **09/21/2004**

K. Dependent Claim 14 Is Patentable

Dependent Claim 14 recites some SLCSEs are modified for a particular one of the plurality of software applications. An OS environment may be customized to a particular application without the need to customize the application. For example, a specific/customized file system that allows files to be accessed in an archive or compressed format may be provided by a custom SLCSE. In another example, a custom network protocol may be used to enable parallel processing over a custom memory interface.

The Examiner contended that O'Rourke et al., Col. 11, lines 39-40, disclose some SLCSEs are modified for a particular one of the plurality of software applications. Applicants submit that the Examiner mischaracterized O'Rourke et al. as it fails to disclose some SLCSEs are modified for a particular one of the plurality of software applications. Instead, O'Rourke et al., Col. 11, lines 39-40, disclose filters needed to process audio data for multimedia may also be applicable to teleconferencing. Accordingly, dependent Claim 14 is patentable for this reason also.

L. Dependent Claim 15 Is Patentable

Dependent Claim 15 recites the SLCSEs that are application specific, reside in user mode, while critical system elements, which are platform specific, reside in the operating system kernel. The Examiner contended that O'Rourke et al. disclose the above-noted recitation and referred to Col. 1, lines 8-11, to support his contention. O'Rourke et al., Col. 1, lines 8-11, fail to disclose the SLCSEs that are application

In re Patent Application of:

ROCHETTE ET AL.

Serial No. **10/946,536**

Filed: **09/21/2004**

specific, reside in user mode, while critical system elements, which are platform specific, reside in the operating system kernel. Instead, O'Rourke et al., Col. 1, lines 8-11, disclose software components of a computer operating system and software components in a kernel mode of a computer system. Additionally, O'Rourke et al., Col. 1, line 52, discloses a layer of software, typically called a driver, existing on top of computer hardware in a system. Nowhere in the Examiner's cited portions of O'Rourke et al. does it disclose the SLCSEs that are application specific, reside in user mode, while critical system elements, which are platform specific, reside in the operating system kernel.

Indeed, applications may use version 2 of a standard C library from an SLCSE (e.g. OS provides version 5 of the standard C library) while using device drivers for a disk subsystem provided by the kernel. Accordingly, dependent Claim 15 is patentable for this reason also.

M. Dependent Claim 16 Is Patentable

Dependent Claim 16 recites the kernel module is adapted to enable data exchange between the SLCSEs in user mode and a device driver in kernel mode, and the data exchange uses mapping of virtual memory such that data is transferred both from the SLCSEs in user mode to the device driver in kernel mode and from the device driver in kernel mode to the SLCSEs in user mode. This advantageously reduces the need for transition from user mode to kernel mode.

The Examiner contended that O'Rourke et al., Col. 1, lines 47-52, and Col. 11, lines 8-12, somehow disclose the

In re Patent Application of:

ROCHETTE ET AL.

Serial No. **10/946,536**

Filed: **09/21/2004**

kernel module is adapted to enable data exchange between the SLCSEs in user mode and a device driver in kernel mode, and the data exchange uses mapping of virtual memory such that data is transferred both from the SLCSEs in user mode to the device driver in kernel mode and from the device driver in kernel mode to the SLCSEs in user mode. Applicants submit that the Examiner mischaracterized the cited portions of O'Rourke et al. Instead, O'Rourke et al., Col. 1, lines 47-51, disclose the operating system providing interfaces through which an application program in user mode may access hardware or other services provided by the operating system, and thus a layer of software typically exists on top of computer hardware in the system. Col. 11, lines 8-11, disclose controlling agent **44** connecting corresponding proxy filter, and corresponding proxy filters handling the details of connecting the individual kernel mode filters into the desired filter graph. Indeed, O'Rourke et al. is silent as to the kernel module being adapted to enable data exchange between the SLCSEs in user mode and a device driver in kernel mode, and the data exchange using mapping of virtual memory such that data is transferred both from the SLCSEs in user mode to the device driver in kernel mode and from the device driver in kernel mode to the SLCSEs in user mode. Accordingly, dependent Claim 16 is patentable for this reason also.

N. Dependent Claim 17 Is Patentable

Dependent Claim 17 recites SLCSEs form a part of at least some of the plurality of software applications, by being linked thereto. In other words, applications do not change, and

In re Patent Application of:

ROCHETTE ET AL.

Serial No. **10/946,536**

Filed: **09/21/2004**

they execute on an incompatible OS in the same manner as they would on a compatible OS.

Applicants submit that a person having ordinary skill in the art would not turn to Peek in an attempt to combine with O'Rourke et al. More particularly, Applicants submit that Peek fails to teach using a shared library to improve resource sharing, but rather teaches reducing resources required for preventing data corruption using a shared library. (See Peek, Col. 5, line 25 - Col. 6, line 5). Indeed, a person skilled in the art would not turn to the controlling agent **44** as in O'Rourke et al. in an attempt to arrive at the claimed invention, as recited in dependent Claim 17. O'Rourke et al. discloses using a controlling agent **44** to connect corresponding proxy filters, while Peek teaches reducing resources. In other words, Peek attempt to reduce resources, and O'Rourke et al. adds resources via the controlling agent **44**. Accordingly, dependent Claim 17 is patentable for this reason also.

O. Dependent Claim 18 Is Patentable

Dependent Claim 18 recites the SLCSEs utilize kernel services supplied by the operating system kernel for device access, interrupt delivery, and virtual memory mapping and otherwise execute without interaction from the operating system kernel. SLCSEs are not the same as the libraries provided by the OS. Indeed, SLCSEs are specific to the application and are independent of the OS.

The Examiner contended that O'Rourke et al., Col. 11, lines 2, 8, and 12, and Col. 9, lines 36-38, along with speaker 62, disk driver 48, disclose the SLCSEs utilize kernel services

In re Patent Application of:

ROCHETTE ET AL.

Serial No. **10/946,536**

Filed: **09/21/2004**

supplied by the operating system kernel for device access, interrupt delivery, and virtual memory mapping. The Examiner also contended that O'Rourke et al., Col. 1, lines 10-11, disclose executing without interaction from the operating system kernel.

Applicants submit that the Examiner mischaracterized O'Rourke et al. in that Col. 11, lines 2, 8, and 12, disclose controlling agent **44** connecting proxy filters. O'Rourke et al., Col. 9, lines 36-38, discloses examples of notification events include end of processing, a data starvation situation, and a data overrun situation. Speaker 62 and disk driver 48 add nothing to the critical deficiencies of O'Rourke et al. O'Rourke et al., Col. 1, lines 10-11, generally disclose a user mode and a kernel mode of a computer operating system, and fail to supply the above-noted deficiencies. Accordingly, dependent Claim 18 is patentable for this reason also.

In re Patent Application of:

ROCHETTE ET AL.

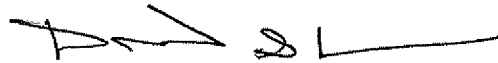
Serial No. **10/946,536**

Filed: **09/21/2004**

III. Conclusion

In view of the arguments presented above, it is submitted that all of the claims are patentable. Accordingly, a Notice of Allowance is respectfully requested in due course. If the Examiner determines any remaining informalities exist, he is encouraged to contact the undersigned attorney at the telephone number listed below.

Respectfully submitted,



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Electronic Patent Application Fee Transmittal				
Application Number:		10946536		
Filing Date:		21-Sep-2004		
Title of Invention:		Computing system having user mode critical system elements as shared libraries		
First Named Inventor/Applicant Name:		Donn Rochette		
Filer:		David Scott Carus/Lisa Norberg		
Attorney Docket Number:		78803 (120-2 US)		
Filed as Small Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Extension - 1 month with \$0 paid	2251	1	65	65

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Total in USD (\$)				65

Electronic Acknowledgement Receipt

EFS ID:	6824503
Application Number:	10946536
International Application Number:	
Confirmation Number:	7612
Title of Invention:	Computing system having user mode critical system elements as shared libraries
First Named Inventor/Applicant Name:	Donn Rochette
Customer Number:	27975
Filer:	David Scott Carus/Lisa Norberg
Filer Authorized By:	David Scott Carus
Attorney Docket Number:	78803 (120-2 US)
Receipt Date:	15-JAN-2010
Filing Date:	21-SEP-2004
Time Stamp:	18:04:17
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$65
RAM confirmation Number	4945
Deposit Account	010484
Authorized User	CARUS,DAVID S.

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Exhibit 4

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Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		78803_EOTandResponse.pdf	883941 f25fedb4778aae8894f77902a9c40eb35a25fe49	yes	25
Multipart Description/PDF files in .zip description					
Document Description			Start	End	
Extension of Time			1	1	
Amendment/Req. Reconsideration-After Non-Final Reject			2	2	
Claims			3	7	
Applicant Arguments/Remarks Made in an Amendment			8	25	

Warnings:**Information:**

2	Fee Worksheet (PTO-875)	fee-info.pdf	30116 f3e02ee386f030c4e8163b083e79feca1980c9ac	no	2
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Warnings:**Information:**

Total Files Size (in bytes):	914057
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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.